Region 1 FY 2014 Invasive Species Control Program Proposal

Refuge/complex name: Hanford Reach National Monument (Mid-Columbia River NWR Complex)

Project title: Snively Basin Rye Field Rehabilitation – Outlier Targeting

Total amount requested: $12,200

Project description:

Target Invasive Species: Cereal rye (*Secale cereale*; a Class C noxious weed in WA), Diffuse knapweed (*Centaurea diffusa*; a Class B noxious weed in WA)

Treatment Acres: ~30 acres

The Snively Basin area of the Arid Lands Ecology Reserve (ALE) within the Hanford Reach National Monument (Monument) was historically used to farm cereal rye, among other dryland grains. The rye had seeded itself out and maintained a near monoculture within the old fields since farming ceased in 1944. It was largely confined to these fields by the relative health of the surrounding native shrub-steppe habitats until catastrophic wildfires in 2000 and 2007. Following the 2000 fire, the rye began to expand and take over surrounding habitats. By 2008 it had expanded to infest over 530 acres. Following the 2007 wildfire, USFWS (Service) began efforts to eradicate cereal rye from the ALE and to establish self-sustaining native plant communities. The treatment prescription developed for this project relies on multi-year (7+) integration of chemical, mechanical (mowing, prescribed fire), and cultural (competition seeding) treatments, following a traditional successional rehabilitation construct.

Since project initiation in February 2008, the Service has made significant inroads in exhausting the cereal rye seed bank and establishing native plant communities within the old fields. The fields have been intentionally re-burned twice, chemically wiped three times, mowed once, and twice seeded with two different (early seral and mid-seral) customized seed mixes. Native grasses, forbs and shrubs have been established throughout most of the main fields. During this process, five outlier areas received delayed treatment. These areas were generally newly invaded post-2007, and so were not targeted during the initial treatments. They are also generally more difficult to access given their disparate locations, topography, and habitats and their use histories (i.e., spring-creek areas, canyon bottoms, and a historic homestead area). As such they require different treatment strategies than did the main infestations. The proposed project is to continue this work towards eradication. The Complex has already budgeted to target the main fields for any necessary follow-up treatments. The proposed project will help to fund the targeting of these outlier patches, to defend the main body of work already completed.

Distinct project with well-defined objectives (10 points):
The proposed project follows standard, well established ecological principles in combating and replacing a persistent invader. The project was initiated in response to a catastrophic event, to prevent and reverse the degradation of native habitats on the refuge. This would cover a portion of the year 7 of a 7+ year prescription, where management actions have entered a maintenance phase while giving newly installed native plant communities a chance to establish (i.e., maintaining the ecological gap to allow native plants time to fill in rather than invasives) and giving native species still present in newly invaded areas an opportunity to recover.

Potential for maximum control/Likelihood of success (10 points):
The project goal is the eradication of cereal rye from Snively Basin and the establishment/re-establishment of self-sustaining native plant communities. The project area is surrounded for miles by native plant communities. As long as self-sustaining native plant communities are allowed to establish in

the created gap, there is little to no chance of reinvasion of the project area. This would be year 7 of a 7+ year prescription, where subsequent treatments are primarily maintenance and fill-in efforts (e.g., continued attrition of the cereal rye seed bank when and where necessary, targeting and replacing small (<5 acre) persistent patches of rye, and introducing and establishing additional native species). Significant milestones have already been achieved, including establishment of native plant communities through the bulk of the main fields.

Biological benefit to priority species or BIDEH (10 points):
One of the primary purposes of the Monument as stated in Presidential Proclamation 7319 ("Establishment of the Hanford Reach National Monument") and in the Final Comprehensive Conservation Plan is to protect and restore shrub-steppe ecosystems. The cereal rye is not native and causes severe degradation of shrub-steppe ecosystems. Eradication of cereal rye and establishment of self-functioning native ecosystems by definition supports the primary purpose of the Monument.

Sustainability (10 points):
All activities proposed under this project should be completed within the fiscal year. Monitoring and follow-up treatments may be necessary for 1-2 years, with levels of effort and costs dependent on results. Results are expected to be good, so future efforts and costs are not anticipated to be great.

Monitoring to document and evaluate project success (10 points):
The cereal rye infestation has been mapped over time from multiple aerial imagery datasets, as well as with GPS-mapping and ground-truthing. The Service has (or has access to) pre-fire sampling data of small mammal, breeding birds/avian communities, and plant communities, and post-fire/pre-treatment data of breeding bird and plant communities, from within and adjacent to the Snively Basin. Additionally, multiple photopoints have been established within and adjacent to the project area. Long-term monitoring will include revisiting the vegetation monitoring transects, continuing the breeding bird monitoring, resampling the small mammal populations, revisiting the photopoints, and GPS/GIS mapping of treatments and remaining infestations.

Annual monitoring will be accomplished through direct observation of treated infestations. New infestations (should they occur) will be GPS'ed using hand-held Trimble® units and a customized data dictionary in TerraSync®. These GPS files will be imported into the Complex's GIS for long-term documentation and monitoring. Treated sites will be revisited in subsequent years and retreatments will be made as needed. Established photopoints will be revisited to document change over time, and new photopoints will be established as necessary.

Budget: $12,200
Personnel: $5,700
Travel: $1,300
Materials/Equipment: $5,200

The Complex will be forming another Invasives Strike Team for 2014 to target other projects on the Complex. The requested personnel funds will allow for targeting of the proposed infestation by the Strike Team by offsetting costs and increasing flexibility of the multi-year NFWF funds, as well as cover any necessary cultural reviews. The travel expenses will cover fuel and vehicle costs, including basic repairs. The strike team is to be based out of the Burbank office. The Monument infestation sites are approx. 100 miles round-trip from the Burbank office. The materials and equipment funds will predominately cover chemical costs and spray and mow equipment expenses.

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Comment [BF1]: Okay, you make a good case.

Comment [BF2]: Extra points here because it is starting to spread and infect other areas.